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ABSTRACT

Projections for first-time undergraduate applicants at the University of Virginia were made using historical data on the states in which applicants live and projections that were made in a report entitled "High School Graduates: Projections for the Fifty States (1982-2000). The report was jointly produced by the Western Interstate Commission for Higher Education, the Teachers Insurance and Annuity Association, and the College Board. The historical data and projections of first-time undergraduate applicants to the University of Virginia cover the period 1985-2000. Recent trends in first-time black undergraduate applicants are also examined. Analysis of 6 years of historical data identified 24 states and the District of Columbia from which 97 percent of first-time undergraduate applications were received. Projections from the "High School Graduates" report for each of the 24 states for each year between 1985 and 2000 were entered into a Lotus model. A rate of application was calculated for each state using a 3-to-5-year average. Data are provided on: applications by state for fall 1983, first-time black undergraduate applicant trends for 1979-1984 from in-state and out-of-state applicants, and "High School Graduates" projections for nine states. (SW)

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ANALYTICAL SUPPORT: CONTRIBUTIONS TO AN INSTITUTIONAL SELF-STUDY

A Paper Presented to the
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SOUTHERN ASSOCIATION FOR INSTITUTIONAL RESEARCH

This paper was presented at the 1984 Annual Conference of the Southern Association for Institutional Research held in Little Rock, Arkansas, October 24-26, 1984. It was reviewed by the SAIR Publications Committee and was judged to be of interest and pertinent to others concerned with the research in higher education. This paper has therefore been selected to be included in the ERIC Collection of Conference Papers.

Richard D. Howard
President, SAIR

ANALYTICAL SUPPORT: CONTRIBUTIONS TO AN INSTITUTIONAL SELF-STUDY

Preface

The purpose of this "position" paper is twofold: first, to present (a) some historical data and projections of first-time undergraduate applicants to the University of Virginia for the period 1985-2000 and (b) recent trends in first-time black undergraduate applicants; secondly, to recommend the establishment of a special committee under the Self-Study Steering Committee or a special sub-committee under the Educational Programs Committee to examine (a) undergraduate enrollment planning and (b) minority student recruitment and retention at the University. Both inquiries would build on the current planning and recruitment efforts in the offices of Admissions, Afro-American Affairs, and the Vice President for Student Affairs and would utilize the considerable expertise of staff members from each of these offices. The scope of the inquiries would be longer than current planning efforts, i.e., through the year 2000, and should involve broader and more active participation on the part of the faculty, minority alumni, area high school counselors, and minority students currently enrolled.

Overview and Findings

In early 1984 a report out of Boulder, Colorado provided new information to the higher education community regarding high school graduate projections through the year 2000. This report,

entitled High School Graduates: Projections for the Fifty States (1982-2000), states:

> The "roller coaster" pattern in the numbers of high school graduates in all the states poses difficult problems for institutional and statewide planners as they seek rational, consistent policies to deal with recruitment, financing, capital improvements, curriculum development, and other critical issues.

Recognizing that high school graduates have traditionally been nearly the only source of first-time undergraduates at the University, projections for first-time undergraduate applicants were made utilizing historical data regarding states from which applicants apply and High School Graduates projections by state.

The projection pattern is as follows: (See Figure 1)

o a steady decrease of applications, with exceptions in 1987 and 1988, from the all time high level of 1983 to a point twenty-eight percent below in 1994 and

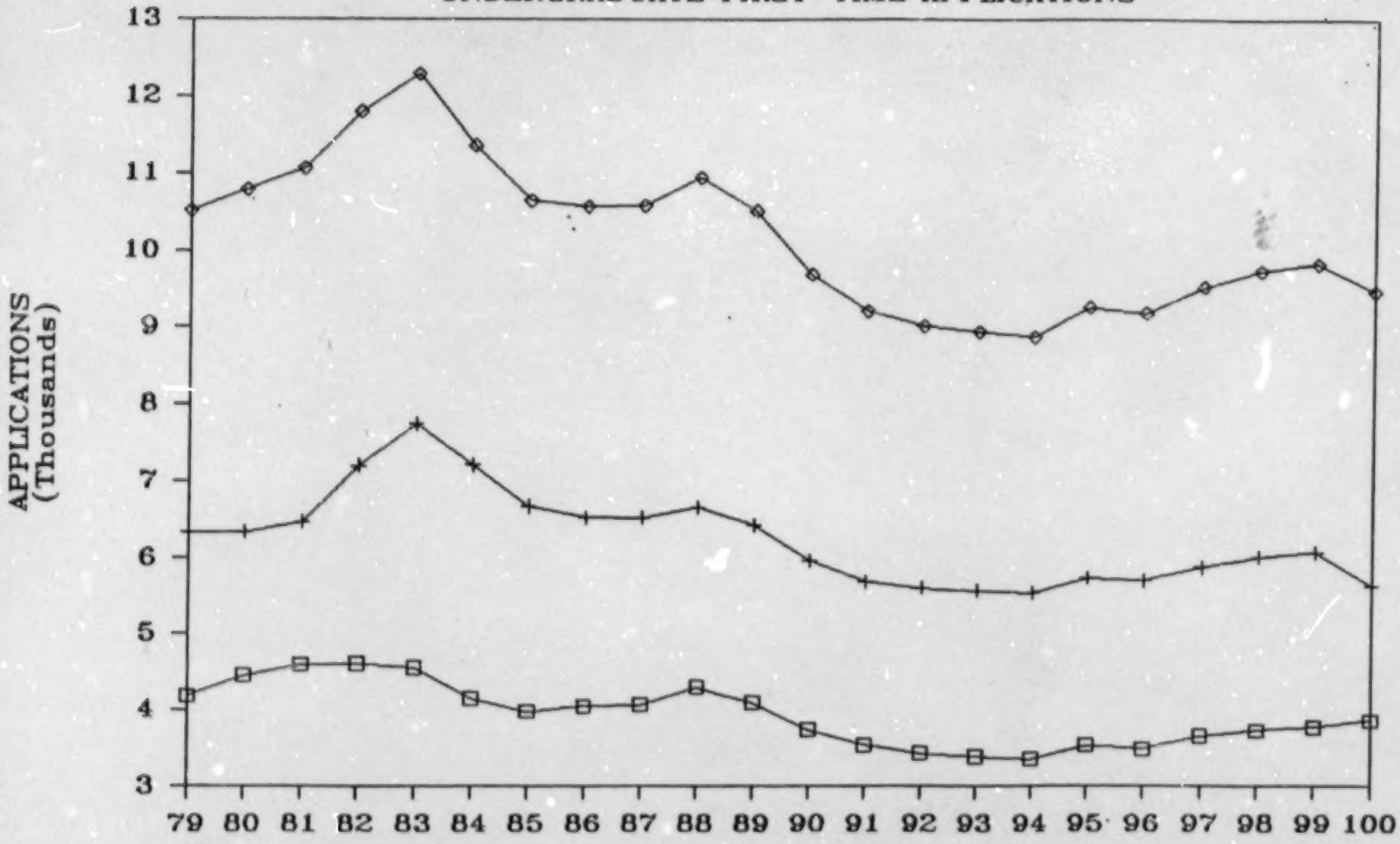
o a slow increase back to seventy-seven percent of the 1983 level by the year 2000.

The principal factors underlying the projection pattern of University applications are the historical pattern of annual births in each state from which applicants apply, interstate migration (past and projected), the rates of persistence of students in the later years of high school, and constant rates of applications to the University by state based on historical 'three-to-five' year averages (1981-1984).

Figure 1

UNIVERSITY OF VIRGINIA

UNDERGRADUATE FIRST-TIME APPLICATIONS



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Methodology of Projections

High School Graduates: Projections for the Fifty States (1982-2000) is a joint publication of the Western Interstate Commission for Higher Education (WICHE), the Teachers Insurance and Annuity Association (TIAA), and the College Board. The report updates, refines, and expands upon a 1979 publication by WICHE, which provided the first comprehensive examination of the effects of declining birth rates and interstate migration on the numbers of high school graduates in the fifty states.

High School Graduates projections were used to build a Lotus 1-2-3 model for projecting University of Virginia first-time undergraduate applications. (Transfer student applications are not considered in the model.) Analysis of six years of historical data identified twenty-four states and the District of Columbia from which ninety-seven percent of first-time undergraduate applications are received. High School Graduates projections from each of these states for each year between 1985 and 2000 were entered into the model. Next, a rate of application was calculated for each state using a three-to-five year average. The rate is the number of applications received divided by the number of high school graduates from that state. Table 1 illustrates the calculation process using Commonwealth of Virginia statistics.

Table 1

Calculation for Rate of Application

Year	Applications to UVA	Virginia High School Graduates	Percent of Applications
1980	4,450	66,539	6.69
1981	4,592	67,147	6.84
1982	4,601	67,809	6.79
1983	4,553	64,620	7.05
1984	4,152	59,968	6.92
		Five Year Average	6.86

The average rate of application, 6.86 percent, was assumed to remain constant over the projection period and was used to calculate the number of applications for each year between 1985 and 2000. Similar calculations were made for the other twenty-four states and the District of Columbia, which combined with Virginia statistics cumulatively comprise ninety-seven percent of total projected UVA applications. [See Table 2 which is a tabulation of applicants by state in descending order for Fall 1983 admission. The relative rank order of the top states has remained constant for the past five years.] An "eyeball-estimate" of trends in the remaining twenty-six states, accounting for three percent of total undergraduate applications, was included in the model to project the summary results shown in Table 3.

Table 2

University of Virginia
First-Time Undergraduate Applications by State
Fall 1983

State	Frequency	Cumulative Frequency	Percent	Cumulative Percent
Virginia	4,553	4,553	37.037	37.037
New York	1,332	5,885	10.835	47.873
New Jersey	1,090	6,975	8.867	56.740
Maryland	948	7,923	7.712	64.451
Pennsylvania	756	8,679	6.150	70.601
Connecticut	368	9,047	2.994	73.595
Massachusetts	362	9,409	2.945	76.539
Florida	320	9,729	2.603	79.143
Ohio	225	9,954	1.830	80.973
Foreign & Other	199	10,153	1.619	82.592
Georgia	191	10,344	1.554	84.1[illegible]
California	172	10,516	1.399	85.545
North Carolina	167	10,683	1.358	86.903
Tennessee	156	10,839	1.269	88.172
Illinois	149	10,988	1.212	89.384
Texas	144	11,132	1.171	90.556
Dist. of Columbia	130	11,262	1.058	91.613
South Carolina	103	11,365	0.838	92.451
Delaware	92	11,457	0.748	93.199
Louisiana	77	11,534	0.626	93.826
Michigan	75	11,609	0.610	94.436
Missouri	70	11,679	0.569	95.005
Alabama	65	11,744	0.529	95.534
West Virginia	63	11,807	0.512	96.047
Kentucky	56	11,863	0.456	96.502
Rhode Island	50	11,913	0.407	96.909
Colorado	42	11,955	0.342	97.250
Wisconsin	41	11,996	0.334	97.584
New Hampshire	37	12,033	0.301	97.885
Indiana	34	12,067	0.277	98.162
Washington	24	12,091	0.195	98.357
Maine	23	12,114	0.187	98.544
Vermont	22	12,136	0.179	98.723
Minnesota	18	12,154	0.146	98.869
Arkansas	18	12,172	0.146	99.016
Kansas	17	12,189	0.138	99.154
Hawaii	15	12,204	0.122	99.276
Arizona	15	12,219	0.122	99.398
Oregon	12	12,231	0.098	99.496
Iowa	12	12,243	0.098	99.593

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Table 3

UNIVERSITY OF VIRGINIA - FIRST-TIME UNDERGRADUATE APPLICATIONS - ACTUAL AND PROJECTED 1979-2000

	YEAR	VIRGINIA SUBTOTAL UVA APPS	VIRGINIA SUBTOTAL PERCENT OF 1983	NON-VIRGINIA SUBTOTAL UVA APPS	NON-VIRGINIA SUBTOTAL PERCENT OF 1983	GRAND TOTAL UVA APPS	GRAND TOTAL PERCENT OF 1983
A	1979	4,186	91.94%	6,333	81.82%	10,519	85.57%
C	1980	4,450	97.74%	6,337	81.87%	10,787	87.75%
T	1981	4,592	100.86%	6,464	83.51%	11,056	89.94%
U	1982	4,601	101.05%	7,196	92.97%	11,797	95.97%
A	1983	4,553	100.00%	7,740	100.00%	12,293	100.00%
L	1984	4,152	91.19%	7,209	93.14%	11,361	92.42%
	1985	3,977	87.36%	6,670	86.17%	10,647	86.61%
	1986	4,044	88.81%	6,524	84.29%	10,568	85.97%
	1987	4,070	89.39%	6,516	84.19%	10,586	86.11%
P	1988	4,295	94.34%	6,651	85.92%	10,946	89.04%
R	1989	4,089	89.81%	6,422	82.98%	10,511	85.51%
O	1990	3,730	81.92%	5,962	77.03%	9,692	78.84%
J	1991	3,532	77.58%	5,675	73.32%	9,208	74.90%
E	1992	3,423	75.18%	5,596	72.30%	9,019	73.37%
C	1993	3,384	74.33%	5,556	71.79%	8,940	72.73%
T	1994	3,348	73.54%	5,530	71.44%	8,878	72.22%
E	1995	3,528	77.48%	5,723	73.94%	9,251	75.25%
D	1996	3,485	76.54%	5,692	73.53%	9,177	74.65%
	1997	3,654	80.25%	5,871	75.86%	9,525	77.48%
	1998	3,726	81.84%	6,007	77.61%	9,733	79.18%
	1999	3,767	82.73%	6,060	78.30%	9,827	79.94%
	2000	3,853	84.63%	5,612	72.50%	9,465	76.99%

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First-time black undergraduate applicant trends from in-state and out-of-state and by total applicants are depicted in Table 4.

Figure 2 shows the High School Graduates projections for the nine states which historically comprise eighty percent of the first-time undergraduate applicants to the University.

Table 4

UNIVERSITY OF VIRGINIA - FIRST-TIME BLACK UNDERGRADUATE APPLICANTS - 1979-1984

YEAR	VIRGINIAN			NON-VIRGINIAN			GRAND TOTAL		
	UVA APPS	BLACK APPS	% OF UVA APPS	UVA APPS	BLACK APPS	% OF UVA APPS	UVA APPS	BLACK APPS	% OF UVA APPS
1979	4,186	232	5.54%	6,333	216	3.41%	10,519	448	4.26%
1980	4,450	226	5.08%	6,337	301	4.75%	10,787	527	4.89%
1981	4,592	280	6.10%	6,464	431	6.67%	11,056	711	6.43%
1982	4,601	233	5.06%	7,196	490	6.81%	11,797	723	6.13%
1983	4,553	287	6.30%	7,740	429	5.54%	12,293	716	5.82%
1984	4,152	248	5.97%	7,209	373	5.17%	11,361	621	5.47%

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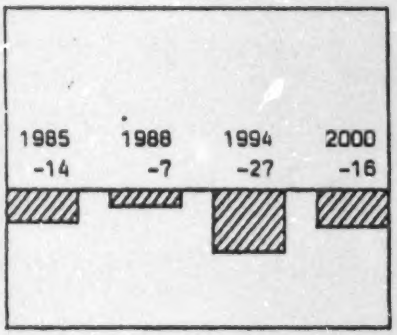
Figure 2

Pattern of Projected High School Graduates

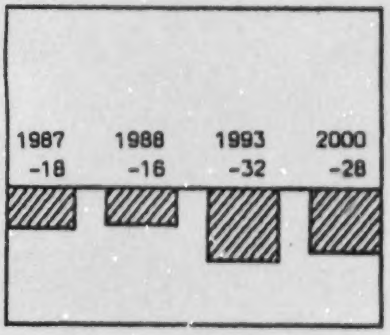
1981 - 2000

Percentage Change from 1981

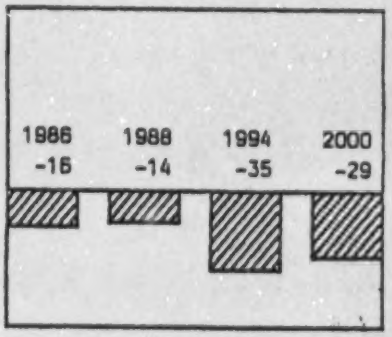
Virginia



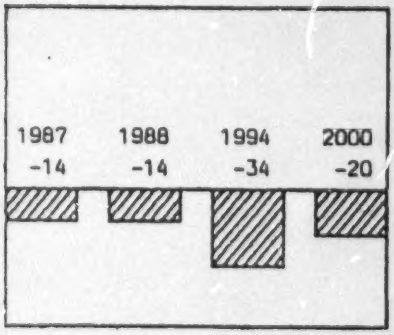
New York



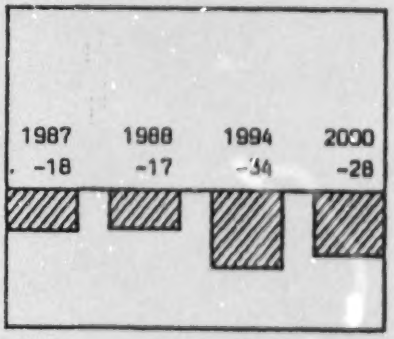
New Jersey



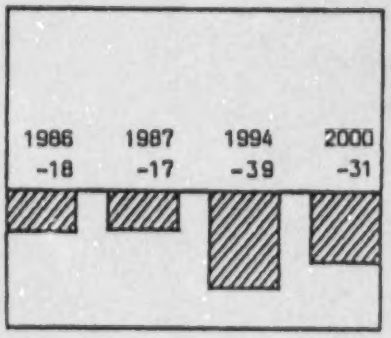
Maryland



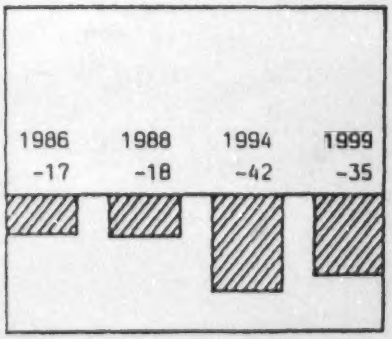
Pennsylvania



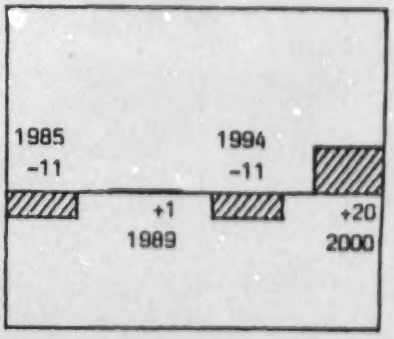
Connecticut



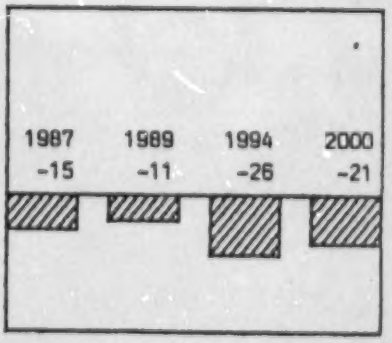
Massachusetts



Florida



Ohio



High School Graduates
1984